

## ABSTRACT

The invention relates to a system that consists of a plurality of sample plate carriers with resettable built-in memory devices and an information input/output station for the aforementioned memory devices. In the preferred embodiments, the aforementioned station comprises a storage cassette for the carrier, or an intermediate station through which the sample plate carrier is passed when it is handled by a robot arm. The cassette has an input/output port for selectively entering or extracting information into or from the memory unit. This information may relate to the specific sample plates or sample plate carriers that holds the memory element and may relate to positions of the carriers and events that occurred with the samples on the specific sample plates. Each sample plate carrier is provided with a locking mechanism for removably locking the sample plates in the carrier. The carriers have asymmetric shape for correct orientation of the carriers in the cells of the cassette and are provided with a number of features that facilitates interaction with grippers and actuators of various types for automatic loading/unloading of the sample plate carriers into/from the cassette and for transportation between the working stations.